REMARKS/ARGUMENTS

The Office Action mailed March 18, 2003 rejected claims 1-12, 13-15 and 16 under Section 103(a) as unpatentable over Jao in view of Andreiko et al. (USPN 5,683,243). Additionally, claims 17-25 were rejected for the same reasons as given for the rejection of claims 2-10. As detailed below, the rejections are traversed in part and overcome in part, and Applicants submit that all claims are in condition for allowance.

The office action noted that Jao does not show aspects such as receiving patient data from an input form and validating the dental patient data in a predetermined sequence. The Office Action asserted that "Andreiko suggests an engine adapted to receive the dental patient data in a predetermined sequence." Applicants respectfully traverse this assertion.

The Office Action cites to Andreiko's Col. 21, lines 19-67 and Col. 24, lines 14-20 as showing the claimed data receiving/validating engine. As discussed on pages 14-15 of the instant specification, the engine of the present invention performs a validity check of the diagnostic entry (step 358). The entered data can be crosschecked against a case selection criteria to ensure that the submitted case is acceptable for treatment. In one embodiment, the answers from each question prompt specific subsequent questions. For example, when a treatment goal input is given, the system checks that the input is compatible with previous diagnostic input, that the treatment goal is realistic with what is deemed acceptable, and that the treatment goal is compatible with other previously entered treatment goals. The data that has been input will generate further questions, and eliminate possible questions that do not have to do with that particular patient. In other embodiments, specific questions are generated to guide the doctor through a plan for how to get the teeth from their start to end position. The system then performs a validity check of the treatment plan entry (step 366). This validity check ensures that the doctor does not enter two incompatible answers that would involve the teeth running into each other, or not heading in the direction of the goal, among others. In another embodiment, the engine generates a summary for review by the doctor to allow the doctor to review all of the entered data and ensure that it is in accordance with what he intended.

The relevant section in Col. 21 of Andreiko is reproduced below:

(87) Analysis, Design and Manufacture Operation

When the information 16, which includes, for example, the model 20, the prescription 27 and the information 17 and 19, are received either at the appliance system manufacturer 13 or is ready to be digitized at the orthodontist's office 11, (87) an analysis, finish tooth position calculation, and orthodontic appliance design and manufacturing operation is begun. In the operation (87), the information 16 is processed and the custom appliance 25 for moving the patient's teeth to an optimum final or finish position in accordance with treatment prescribed by the orthodontist 14 is produced.

The operation (87) includes the procedures of (94) inputing into a computer the information 16 from the orthodontist 14, in digital form, (95) analyzing with the aid of computer 30b the input digitized information to arrive at the finish position of the teeth, (96) designing with a computer a custom orthodontic appliance in accordance with the computer analysis, (97) manufacturing the custom appliance 25 in accordance with the computer assisted design with the aid of computer controlled machinery, and (98) communicating the custom appliance 25 and accompanying instructions to the orthodontist 14.

In accordance with certain embodiments of the present invention, some or all of the appliance manufacturing step (97) can be performed at the facilities 11 of the orthodontist 14, in which case the communicating step (98) would involve the communication of machine readable code, in lieu of some or all of the completed custom appliance 25, from the design facility 13 to the orthodontist 14.

(94) Input Procedure:

In the input procedure (90) is illustrated in the flowchart of FIG. 2A. In the procedure (94), the received information 16 is input, in the illustrated embodiment by operator 28 at the design facility 13, into a computer 30 in digital form. Even where the inputting is performed by operator at the design facility 13, some information 16, such as the information 17 and 19, may be supplied by the orthodontist 14 in machine readable form and input directly into the computer 30. The input procedure (94) includes five steps (100)-(500), the substeps of which are described in detail in connection with the flowchart details of FIGS. 2E-2I below. The steps of the input procedure (90), in the illustrated embodiment, also include certain substeps that are part of the function of the analysis step (92) but are more conveniently performed at the time of the information is entered into the computer.

The input steps (100) and (200) involve the entry of background information assembled by the orthodontist 14. In the input steps (300), (400) and (500), tooth and jaw positions and profiles are defined in terms of orthodontic

parameters and landmarks that can be later analyzed by computer to best implement the orthodontic knowledge, skill and experience embodied in the prescription 27 and of the orthodontic profession while efficiently automatically producing a optimum result.

There is nothing in the cited section about validating data entry in Col. 21. Similarly, Col. 24 is silent on validating data entry:

For each tooth, profile data is taken in separate X-Y coordinates that relate only to the selected surface or plane. In the course of the analysis and calculation of finish tooth position, these planes are separately translated and reoriented with respect to those of the other teeth and those of the trough and archforms, in several steps, until the ultimate interplane relationships are established

The Office Action needs to point out specifically in Andreiko where data validation is performed, or the rejection should be withdrawn.

In the instant case, since Andreiko lacks the data validation engine, Andreiko neither anticipates nor renders the invention obvious. Withdrawal of the §103 rejection is respectfully requested.

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 650-326-2400.

Respectfully submitted,

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